



(19)

(11) Publication number: **60057938 A**

Generated Document.

PATENT ABSTRACTS OF JAPAN(21) Application number: **58165964**(51) Intl. Cl.: **H01L 21/302**(22) Application date: **09.09.83**

(30) Priority:

(43) Date of application
publication: **03.04.85**(84) Designated contracting
states:(71) Applicant: **NEC CORP**(72) Inventor: **MORI KATSUMI
MATSUI SHINJI
ASATA SUSUMU**

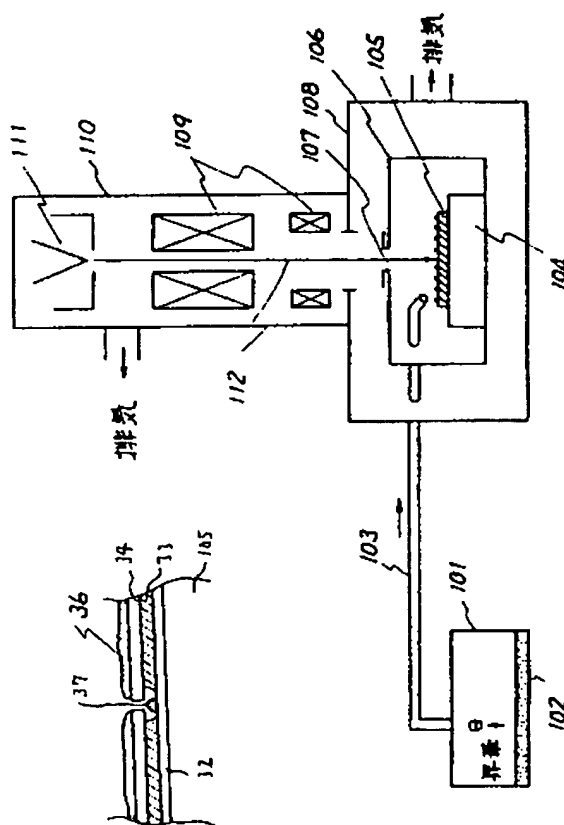
(74) Representative:

**(54) FORMATION OF
MICROFINE PATTERN**

(57) Abstract:

PURPOSE: To form a microfine pattern without being affected by the spreading of electrons due to scattering by etching a thin-film while using a high-molecular film consisting of a fluoride easy to be volatilized through the projection of electron beams as a resist.

CONSTITUTION: CF₄, CHF₃, etc. required for a high-molecular reaction in a reaction vessel 106 are diluted and forwarded into XeF₂ from an XeF₂ supply section 101. When the molecules of C and F adsorbed onto a substrate 105 are irradiated with electron beams 112 and ionized, and brought to a microplasma state, a high-molecular film composed of F and C changed into high molecules is formed on the substrate. When the high-molecular film 34 is evaporated by electron beams with a microfine diameter under an ultra-high vacuum, a pattern in approximately the same extent as the diameter of electron beams is formed. For example, a polysilicon thin-film 33 is etched in an atmospheric gas consisting of XeF₂ to shape the overhang of the high-molecular thin-film 34, a metallic film or semiconductor film 36 is evaporated, and the pattern 37 is formed on the substrate 105.



COPYRIGHT: (C)1985,JPO&Japio